LISTING OF CLAIMS

1. (currently amended) A method of monitoring the condition of a pump, or a component of a system ~~comprising~~ having a pump ~~which~~ wherein the component is not a component of the pump, the method comprising the steps of:
generating a predetermined test condition in the pump or system component; and
obtaining signals indicative of a condition of the pump or system during a period in which the test condition is present.

2. (currently amended) ~~A~~ The method as claimed in claim 1, wherein ~~said~~ the step of generating a predetermined test condition comprises generating an abnormal load condition whereby ~~said~~ the pump or system component is subject to an increased stress as compared with normal operating stresses.

3. (currently amended) ~~A~~ The method as claimed in claim 2, wherein ~~said~~ the step of generating a predetermined test condition comprises causing a reduction in clearance between parts of the pump and ~~said~~ obtaining the signals ~~are obtained~~ during a period in which ~~said~~ the reduction in clearance is present.

4. (currently amended) ~~A~~ The method as claimed in claim 3, wherein ~~said~~ the pump has a rotor and a stator and the clearance that is reduced is a clearance between the rotor and the stator.

5. (currently amended) ~~A~~ The method as claimed in claim 4, wherein ~~said~~ the clearance is reduced ~~at least in part~~ by selective control of rotational speed of ~~said~~ the rotor.

6. (currently amended) ~~A~~ The method as claimed in claim 5, wherein ~~said~~ the reduction in clearance is ~~at least in part~~ caused by the steps of causing a predetermined reduction in rotor rotation speed from a selected speed for a predetermined period of time and then

causing a predetermined increase in rotor rotation speed above ~~said~~ the selected speed for a predetermined period of time.

7. (currently amended) ~~A~~ The method as claimed in ~~any one of~~ claims ~~3 to 6~~, wherein ~~said~~ the pump is provided with a cooling system and ~~said~~ the reduction in clearance is ~~at least in part~~ caused by controlling a rate of flow of coolant to cause a perturbation of temperature in ~~said~~ the pump.

8. (currently amended) ~~A~~ The method as claimed in ~~any one of~~ claims ~~3 to 7~~, wherein ~~said~~ the reduction in clearance is ~~at least in part~~ caused by increasing a gas flow rate through ~~said~~ the pump.

9. (currently amended) ~~A~~ The method as claimed in ~~any one of the preceding~~ claims 1, wherein ~~said~~ the pump is driven by an electric motor and ~~said~~ the signals provide an indication of the current supplied to ~~said~~ the motor.

10. (currently amended) ~~A~~ The method as claimed in ~~any one of the preceding~~ claims 1, wherein the system component comprises a conduit connected with the pump, and ~~said~~ the system condition is a condition of ~~said~~ the conduit.

11. (currently amended) ~~A~~ The method as claimed in claim 10, wherein ~~said~~ the step of generating a predetermined test condition comprises generating a predetermined test flow rate in ~~said~~the conduit that is greater than a normal operating flow rate through ~~said~~the conduit.

12. (currently amended) ~~A~~ The method as claimed in claim 11, further comprising obtaining ~~said~~the signals indicative of a condition of the system by means of a pressure sensor arranged to sense pressure in ~~said~~the conduit.

13. (currently amended) ~~A~~ The method as claimed in claim 11 ~~or 12~~, wherein ~~said~~the test flow rate in ~~said~~the conduit is generated by injecting a ~~pressurised~~ pressurized flow into ~~said~~the conduit.

14. (currently amended) ~~A~~ The method as claimed in claim 11~~, 12 or 13~~, wherein ~~said~~the test flow rate is generated by injecting a ~~pressurised~~ pressurized gas flow into ~~said~~the pump.

15. (currently amended) ~~A~~ The method as claimed in ~~any one of the preceding~~ claims 1, wherein the pump or apparatus with which the pump is associated is equipped to store ~~said~~the signals

16. (currently amended) ~~A~~ The method as claimed in ~~any one of the preceding~~ claims 1, wherein ~~said~~the signals are transmitted to a storage location via a LAN or the internet.

17. (currently amended) ~~A~~ The method as claimed in ~~any one of the preceding~~ claims 1, wherein ~~said~~the signals are ~~analysed~~ analyzed to assess the condition of the pump or system component.

18. (currently amended) ~~A~~ The method as claimed in claim 17, wherein ~~said~~the ~~analysing~~ analyzing step comprises comparing ~~said~~the signals with signals obtained during at least one previous predetermined test condition of the pump or system component.

19. (currently amended) ~~A~~ The method as claimed in claim 17 ~~or 18~~, wherein ~~said~~the ~~analysing~~ analyzing step comprises comparing ~~said~~the signals with pre-programmed data.

20. (currently amended) ~~A~~ The method as claimed in claim 17~~, 18 or 19~~ wherein ~~said~~the ~~analysing~~ analyzing step comprises comparing ~~said~~the signals with signals obtained from at least one other pump or like system component of another system during at least one predetermined test condition of the ~~or each~~ other pump or system component.

21. (currently amended) ~~A~~ The method as claimed in ~~claim any one of~~ claims 17 ~~to 20~~, wherein ~~said~~the ~~analysing~~ analyzing step comprises inputting ~~said~~the signals into an algorithm to provide a prediction of pump or system component condition.

22. (currently amended) ~~A~~ The method as claimed in ~~any one of~~ claims 17 ~~to 21~~, wherein ~~said~~the ~~analysing~~ analyzing step comprises inputting ~~said~~the signals into an algorithm to provide a prediction of pump or system component life until a predetermined condition of the pump or system component will occur.

23. (currently amended) ~~A~~ The method as claimed in ~~any one of~~ claims 17 ~~to 22~~, wherein signals indicative of a system component condition are obtained and ~~said~~the ~~analysing~~ analyzing step includes using ~~said~~the signals to predict a condition of the pump or system.

24. (currently amended) ~~A~~ The method as claimed in ~~any one of~~ claims 17 ~~to 23~~, further comprising providing an audible indication of the result of ~~said~~the ~~analysing~~ analyzing step.

25. (currently amended) ~~A~~ The method as claimed in ~~any one of~~ claims 17 ~~to 24~~, further comprising providing a visual indication of the result of ~~said~~the ~~analysing~~ analyzing step.

26. (currently amended) ~~A~~ The method as claimed in ~~any one of~~ claims 17 ~~to 25~~, wherein ~~said~~the pump or system is automatically closed down if ~~said~~the ~~analysing~~ analyzing step indicates a predetermined condition of the pump or system component.

27. (currently amended) ~~A~~ The method as claimed in ~~any one of the preceding~~ claims 1, wherein the pump or apparatus with which the pump is associated is able to determine whether the pump or system is in a condition that permits testing of the pump or system component. ~~and to cause the implementation of the steps of any one of the preceding claims if said condition permits testing of the pump or system component condition.~~

28. (currently amended) ~~A~~ The method as claimed in claim 27, wherein ~~said~~the determining step is performed at predetermined intervals.

29. (cancelled)

30. (cancelled)

31. (currently amended) Apparatus comprising a pump, pump controller and ~~at least one~~ a sensing device for sensing a pump operating parameter, ~~said~~the pump controller being able to control ~~said~~the pump so as to selectively generate a predetermined pump test condition and the ~~or each said~~ sensing device providing signals indicating values of ~~said~~the parameter when ~~said~~the test condition is generated.

32. (currently amended) Apparatus as claimed in claim 31, wherein ~~said~~the ~~at least one~~ sensing device comprises a current sensing device for sensing current supplied to a motor that drives ~~said~~the pump.

33. (currently amended) Apparatus as claimed in claim 31 ~~or 32~~, wherein ~~said~~the ~~at least one~~ sensing device comprises a pressure sensing device for sensing a pressure in ~~said~~the apparatus.

34. (currently amended) Apparatus as claimed in claim 31~~, 32 or 33~~, wherein ~~said~~the apparatus comprises a cooling system for ~~said~~the pump, ~~said~~the controller being operable to control ~~said~~the cooling system to generate a ~~said~~the predetermined test condition.

35. (currently amended) Apparatus as claimed in ~~any one of~~ claims 31 ~~to 34~~, wherein ~~said~~the controller is able to control pump speed to generate ~~a said~~the predetermined test condition.

36. (currently amended) Apparatus as claimed in ~~any one of~~ claims 31 ~~to 35~~, wherein ~~said~~the apparatus comprises a source of ~~pressurised~~ pressurized gas and ~~said~~the controller is able to cause a flow of gas from ~~said~~the source to generate ~~a said~~the predetermined test condition.

37. (currently amended) Apparatus comprising a pump, a controller, an exhaust conduit extending from ~~said~~the pump, ~~at least one~~a sensing device for sensing a condition in ~~said~~the conduit, a connection associated with ~~said~~the pump ~~and~~ or conduit for connecting ~~said~~ the pump ~~and~~ or conduit with a source of ~~pressurised~~ pressurized gas and valving for controlling flow of ~~said~~the gas into ~~said~~the pump ~~and~~/or conduit, ~~said~~the controller being able to control ~~said~~the valving to selectively admit ~~said~~the gas into ~~said~~the pump ~~and~~/or conduit so as to generate a predetermined test condition in ~~said~~the conduit and the ~~or each said~~ sensor providing signals indicative of ~~said~~the condition in the conduit when ~~said~~the test condition is generated.

38. (currently amended) Apparatus as claimed in claim 37, wherein ~~said~~the ~~at least one~~ sensing device comprises a pressure sensor for sensing gas pressure in ~~said~~the conduit.

39. (currently amended) Apparatus as claimed in claim 37 ~~or 38~~, wherein ~~said~~the controller is a controller for ~~said~~the pump.

40. (currently amended) Apparatus as claimed in ~~any one of~~ claims 31 ~~to 36 or claim 39~~, wherein ~~said~~the controller comprises a computer connectable with ~~said~~the pump.

41. (currently amended) Apparatus as claimed in claim 40, wherein ~~said~~the controller is connectable with the pump via a LAN or the internet.

42. (cancelled)